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THE Duke of Portland has promised £2,000 towards establishing a chair of mining at Nottingham University College.

THE trustees of Cornell University have decided to limit the work in the medical department at Ithaca to one year in the future instead of two, as has been the custom since the school was founded.

OF thirty-one elections to the Phi Beta Kappa honorary fraternity at Cornell University, nineteen are women, and of twenty-seven elections at the University of Illinois twenty are women.

CLOSER relations are being established between the College of Physicians and Surgeons, Columbia University, and the Mt. Sinai and German Hospitals in New York. The following members of the staffs of the hospitals have received appointments in Columbia University. From Mt. Sinai Hospital Drs. Brill, Libman, Gerster and Berg, and from the German Hospital, Drs. Kammerer, Stadtmüller and Hensel.

DR. GEORGE P. BURNS, of the University of Michigan, has been called to the chair of botany at the University of Vermont.

MR. LEONARD DONCASTER, lecturer in the University of Birmingham, known for his work in zoology and especially in heredity, has been elected a fellow of King's College, Cambridge.

MR. WILLIAM RAY, Rhode scholar from Adelaide at Oxford, has been elected to the Philip Walker studentship at Oxford, for research in pathology. The fellowship is of the value of £200 a year for three years.

DR. G. HABERLANDT, of Graz, has been called to the chair of botany at the University of Berlin, vacant by the retirement of Professor Schwendener.

DR. KARL UHLIG, of Berlin, has been called to the chair of geography at Tübingen, to succeed Professor K. Sapper.

DR. ALFRED GRUND, of the University of Berlin, has been made professor of geography in the German University of Prague.

DR. ERNST MEUMANN, of Halle, has been called to the chair of philosophy at Leipzig, vacant through the death of Professor Max Heinze.

#### DISCUSSION AND CORRESPONDENCE

##### THE DIRECTORY OF AMERICAN MUSEUMS

THE Directory of American Museums of Art, History and Science, which is being prepared by the American Association of Museums, is nearly ready for the printers, and all museums which have not already returned information regarding their collections are urged to communicate at once with the undersigned.

The data desired include a list of the staff; an enumeration of the nature and extent of the collections, with comments on the more important material; a statement of the sources and amount of the financial support; particulars regarding the building, including the amount of floor space occupied; the scope and purposes of the museum; information concerning the museum library and publications, if any; and the times and conditions upon which the museum is open to the public, with statistics of attendance, if available.

The cooperation of the American museums is earnestly requested in order that the directory may be as complete as possible.

PAUL M. REA,

THE CHARLESTON MUSEUM, *Secretary*  
CHARLESTON, S. C.

##### A QUEER FISH

SOME newspapers have connected me with the statement that a specimen said to be a fish with four legs was caught in Brazil. Permit me to say that the particular specimen has no legs and is not a fish.

C. H. EIGENMANN

##### SCIENTIFIC BOOKS

*Lehrbuch der Protozoenkunde. Eine Darstellung der Naturgeschichte der Protozoen mit besonderer Berücksichtigung der parasitischen und pathogenen Formen. Zweite Auflage der "Protozoen als Parasiten und Krankheitserreger."* Von Dr. F. DOFLEIN.

Pp. x + 914, mit 825 Abbildungen im Text. Jena, Gustav Fischer. 1909. M. 24, Geb. 26.50.

The rapid development in recent years of the science of protozoology to a position co-ordinate with bacteriology is reflected in the enormous increase in the literature dealing with the Protozoa. The *Archiv für Protistenkunde* founded by Schaudinn in 1902 is now in its eighteenth volume. For the year 1890 the *Zoological Record* lists 109 titles under protozoa, for 1900 there are 167, and 1905 no less than 522, the high-water mark to date.

This activity in research has not only brought to light countless details of structure, and increased many fold the categories of life-histories, but it has also complicated rather than simplified our general notions regarding the cytology of protists and the primitive processes of reproduction. The Protozoa are no longer to be regarded as simple organisms. It has likewise raised many hotly contested questions such as the life history and relationships of the trypanosomes, the relationships of the spirochaetes and the occurrence and meaning of chromidia. It has brought to light not a few problematical protists, seen for example in those structures associated with such diseases as small-pox, measles, scarlet fever, epithelioma contagiosum and trachoma which Prowazek has grouped together as Chlamydozoa, as well as other less notorious organisms which are with difficulty allocated in existing categories, though beyond all question to be regarded as protozoa.

The stupendous task of assembling, coordinating and sifting this ever-increasing flood of protozoological literature into a "Lehrbuch" would be attempted only by a German, and even Dr. Doflein admits that he would not have undertaken the three years' "mühsamer Arbeit" had he clearly foreseen the magnitude of the task and the burden of reviewing the literature.

The author's treatment of this overwhelming mass of data has been facilitated by his own incursions into the different fields of research here represented. His treatment of contested points is wisely conservative and

objective, though one is disappointed in not finding a full and critical discussion of the claims of the Chlamydozoa for admission to the category of protozoan organisms and regrets their summary dismissal.

The account of the sexual reproduction of *Trypanosoma lewisi* in the rat louse as described by Prowazek is regarded by Doflein as hypothetical throughout, resting upon too few observations, and these apparently upon abnormal stages. It remains to be seen if later work will not confirm the existence of a sexual cycle in an insect host. Schaudinn's account of the complicated life histories of the blood parasites of the owl is, perhaps more justly, dismissed as improbable in the light of the work of Novy and his collaborators.

The point of view from which the book is written is most commendable, to wit, to bring the results of investigations upon parasitic and pathogenic protozoa into correlation with our general knowledge of the natural history of the group. While the parasitic protozoa are given a large place in the systematic part of the text even to the exclusion of others equally interesting and important but non-pathogenic, the main outlines of the work and the general discussions are not thus limited but are conceived and elaborated along the broadest lines so that the work is of value to all who deal with protozoa or with the biological problems which they may elucidate.

The introductory treatment of the general morphology, physiology, reproduction and ecology of the groups forms the first third of the volume, while the remainder contains a systematic presentation of the phylum protozoa by orders and families carried to genera and species in many cases of important parasitic and pathogenic forms. Special chapters on the parasitism and pathological significance of the different groups are interspersed in this section.

The Flagellata are treated in 142 pages, the Rhizopoda in 132, the Sporozoa in 218 and the Ciliata in 47. With all due regard to the scientific, economic and social value of the pathogenic phase of protozoology, to the limitations of a single volume, to the relative de-

mand for and interest in the information regarding the different groups, and to their biological significance, many users of Dr. Doflein's book will doubtless agree with the reviewer that the non-pathogenic groups are all too inadequately represented. The Ciliata are especially unfortunate in coming up last for presentation in a volume rapidly approaching a thousand pages. One feels that the extensive and important recent work on the Radiolaria is very incompletely presented in the 18 pages mostly consisting of a perfunctory list of radiolarian families. In fact a new edition of Bütschli's *Thierreich* monograph is sorely needed to make possible a well-coordinated critical review of the whole group of Protozoa and this is a task which in the present state of the science can only be undertaken by a group of specialists. All protozoologists, biologists and pathologists will be profoundly grateful to the author for the book even with these minor limitations. It will also prove a stimulus to further research and greatly facilitate it. Problems requiring further elucidation are continually suggested in its pages.

The book is, beyond all question, the best illustrated work that has come from Fischer's famous press. This is due to the wise selection of figures, the inclusion of many original sketches made especially for the work, and to the uniformly careful preparation of the drawings, as well as to the high degree of technical skill in the reproduction. The only drawback is the reflection from the highly glazed paper which is very trying to the eyes.

An English translation of the work, revised to date, is in preparation by Col. Leslie in conjunction with Dr. Doflein. This will be especially welcome to English readers, since it makes the work available for instruction in academic and medical classes.

The book is fittingly dedicated to "meinem lieben Lehrer und Freund Richard Hertwig in Verehrung und Dankbarkeit," and comes logically from the laboratories at Munich, the foremost center in the world for protozoological research along comprehensive lines.

CHARLES A. KOFOID

UNIVERSITY OF CALIFORNIA

*Allen's Commercial Organic Analysis*. Volume I. Introduction, Alcohols, Yeast, Malt Liquors and Malt, Wines and Spirits, Neutral Alcoholic Derivatives, Sugars, Starch and its Isomerides, Paper and Paper-making Materials, Vegetable Acids. By HENRY LEFFMANN and W. A. DAVIS, editors, and E. F. ARMSTRONG, J. L. BAKER, G. C. JONES, E. SCHLICHTING and R. W. SINDALL, contributors. Fourth edition, entirely rewritten. Philadelphia, P. Blakiston's Son and Co. 1909. Pp. x + 576. Price \$5.00.

It is eleven years since the last American edition of this well-known work was published. When we consider the very rapid advances which have been made in this field during recent years and also that the third edition was prepared so hastily as to prevent a thorough revision, the need of a thorough rewriting of the whole book is evident. The revision has been very thorough and a large amount of new material has been added.

No one individual can be thoroughly familiar by personal experience with the great variety of analytical methods presented in a book of this kind and the editors have very wisely secured the help of several expert chemists for the preparation of different sections of the book. The introduction (83 pages) treating of general methods of analysis and the determination of physical constants is by William A. Davis; Methyl and Ethyl Alcohol (47 pages), by G. C. Jones; Malt and Malt Liquors (32 pages), by Julian L. Baker; Wines and Potable Spirits (39 pages), by G. C. Jones; Yeast (21 pages, wholly new), by E. Schlichting; Neutral Alcoholic Derivatives, as Ether, Esters, Aldehydes, Chloroform, etc. (57 pages), by Henry Leffmann; Sugars, Analysis of Urine, Starch, Dextrin, Flour, Bread, Cellulose, etc. (180 pages), by E. Frankland Armstrong; Paper and Paper-making Materials (20 pages, new), by R. W. Sindall and Acid Derivatives of Alcohols, as acetic acid, vinegar, oxalic, succinic, malic, tartaric and citric acids (83 pages), by Henry Leffmann.

The book is one which should be in every chemical library and which no chemist engaged in the examination of foods can afford to be without.

W. A. NOYES